

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1-7. (Canceled)

8. (Currently amended) ~~The method of claim 2~~ A method of generating an output image based on a first image and a second image, the method comprising:

determining whether a first display position on a display panel at which a first pixel of the output image is to be displayed is within an active display region of the display panel;

performing active display processing to generate the output image if the first display position is within the active display region of the display panel; and

performing blanking processing to generate the output image if the first display position is not within the active display region of the display panel;

wherein performing active display processing comprises:

performing selective display processing if the first image and the second image are not both active at the first display position; and

performing composite display processing if the first image and the second image are both active at the first display position;

wherein performing composite display processing comprises:

selecting, as the first pixel of the output image, either a first pixel of the first image, a first pixel of the second image, or a blending of the first pixel of the first image and the first pixel of the second image, based upon a processing control input, the processing control input indicating

whether the first image is transparent or opaque, whether the second image is transparent or opaque, and whether the first image is on top of the second image.

9. (Original) The method of claim 8 wherein the processing control input comprises a first control signal, the first control signal is set if the first image is transparent and not set if the first image is opaque, a second control signal, the second control signal is set if the second image is transparent and not set if the second image is opaque, and a third control signal, the third control signal is set if the first image is on top of the second image and not set if the second image is on top of the first image.

10. (Original) The method of claim 9 wherein the first pixel of the first image is selected as the first pixel of the output image if the first control signal is not set and the third control signal is set.

11. (Original) The method of claim 9 wherein the first pixel of the second image is selected as the first pixel of the output image if the second control signal is not set and third control signal is not set.

12. (Original) The method of claim 9 wherein the blending of the first pixel of the first image and the first pixel of the second image is selected as the first pixel of the output image if both the first control signal and the second control signal are set.

13. (Original) The method of claim 9 wherein the blending of the first pixel of the first image and the first pixel of the second image is selected as the first pixel of the output image if the first control signal is set and the third control signal is set.

14. (Original) The method of claim 9 wherein the blending of the first pixel of the first image and the first pixel of the second image is selected as the first pixel of the output image if the second control signal is set and the third control signal is not set.

15. (Original) The method of claim 8 wherein the blending of the first pixel of the first image and the first pixel of the second image is an alpha blending of the first pixel of the first image and the first pixel of the second image.

16. (Original) The method of claim 15 wherein the alpha blending comprises an alpha blending of a first component of the first pixel of the first image and a first component of the first pixel of the second image.

17. (Original) The method of claim 16 wherein the first component of the first pixel of the respective image is a chroma component indicative of a first characteristic of the first pixel or a luma component indicative of a second characteristic of the first pixel.

18. (Original) The method of claim 17 wherein the first characteristic is a color characteristic and the second characteristic is a brightness characteristic.

19. (Currently amended) ~~The method of claim 1~~ A method of generating an output image based on a first image and a second image, the method comprising:

determining whether a first display position on a display panel at which a first pixel of the output image is to be displayed is within an active display region of the display panel;

performing active display processing to generate the output image if the first display position is within the active display region of the display panel; and

performing blanking processing to generate the output image if the first display position is not within the active display region of the display panel;

wherein the first image and the second image are selected from the group consisting of a digital video image, an analog video image, a graphics image, and a background color.

20. (Original) The method of claim 19 wherein the graphics image comprises a tiled graphics image.

21. (Original) The method of claim 19 wherein the graphics image comprises a cursor image.

22. (Currently amended) ~~The method of claim 1~~ A method of generating an output image based on a first image and a second image, the method comprising:

determining whether a first display position on a display panel at which a first pixel of the output image is to be displayed is within an active display region of the display panel;

performing active display processing to generate the output image if the first display position is within the active display region of the display panel; and

performing blanking processing to generate the output image if the first display position is not within the active display region of the display panel;

wherein the output image is displayed on the display panel in an interlaced display mode.

23-24. (Canceled)

25. (Currently amended) ~~The method of claim 23~~ A method of generating an output image based on a first image and a second image, the method comprising:

determining whether a first display position on a display panel at which a first pixel of the output image is to be displayed is within an active display region of the display panel;

performing active display processing to generate the output image if the first display position is within the active display region of the display panel; and

performing blanking processing to generate the output image if the first display position is not within the active display region of the display panel;

wherein determining whether the first display position is within the active display region comprises determining whether the display panel is in a blanking state, the first display position is within the active display region if the display panel is not in the blanking state;

wherein the display panel is in the blanking state if the display panel is in a horizontal blanking period.

26. (Canceled)

27. (Currently amended) ~~The method of claim 26~~ A method of generating an output image based on a first image and a second image, the method comprising:

determining whether a first display position on a display panel at which a first pixel of the output image is to be displayed is within an active display region of the display panel;

performing active display processing to generate the output image if the first display position is within the active display region of the display panel; and

performing blanking processing to generate the output image if the first display position is not within the active display region of the display panel;

wherein performing blanking display processing comprises generating, based upon a blanking control input, either a blank signal, an end of active video (EAV) signal, a start of active video (SAV) signal, a constant value, a previous output pixel, or a pixel of ancillary data;

wherein the ancillary data is a text data, a video data, or a graphics data.

28-36. (Canceled)

37. (Currently amended) A method of composing an output image to be displayed on a display panel based upon multiple input images, the multiple input images comprising a first image, a second image, a third image and a fourth image, the method comprising:

determining whether the display panel is in a blanking display mode at a first display location on the display panel, the first display location corresponding to a location on the display panel where a first output pixel is to be displayed;

performing active display processing to compose the output image if the display panel is not in the blanking display mode; and

performing blanking display processing to compose the output image if the display panel is in the blanking display mode;

wherein the first image comprises a background image being selected from the group consisting of a background color image, a background tiled graphics image, and a background video image.

38. (Canceled).

39. (Original) The method of claim 37 wherein the second image comprises a video image.

40. (Original) The method of claim 37 wherein the third image comprises a graphics image.

41. (Original) The method of claim 37 wherein the fourth image comprises a cursor image.

42. (Original) The method of claim 37 wherein performing the active display processing comprises:

selecting as a first output data a first pixel of the second image if the second image is active at the first display location or the first pixel of the first image if the second image is not active at the first display location.

43. (Original) The method of claim 42 wherein the second image is active at the first display location if the first display location is within a second display area on the display panel that is to be occupied by the second image.

44. (Original) The method of claim 42 including:

blending a first pixel of the third image with the first output data to generate a second output data if the third image is active at the first display location and the third image is transparent.

45. (Original) The method of claim 44 including:

selecting as the second output data the first output data if the second image is active at the first display location and the second image is on top of the third image.

46. (Original) The method of claim 44 including:

selecting as the second output data the first pixel of the third image if the third image is active at the first display location and the third image is not transparent.

47. (Original) The method of claim 46 including:

blending a first pixel of the fourth image with the second output data to generate the first output pixel if the fourth image is active at the first display location and the fourth image is transparent;

selecting the first pixel of the fourth image as the first output pixel if the fourth image is active at the first display location and the fourth image is not transparent; and

selecting the second output data as the first output pixel if the fourth image is not active at the first display location.

48. (Original) The method of claim 37 wherein performing blanking display processing comprises:

generating blanking data selected from the group consisting of a blank signal, a constant value, a start of active video (SAV) signal, an end of active video (EAV) signal, a previous output pixel, and ancillary data.

49. (Original) The method of claim 48 wherein the ancillary data is selected from a text data, a video data, and a graphics data.

50-96. (Canceled)

97. (New) A method of generating an output image based on a plurality of images, the method comprising:

receiving, at a display processing system, the plurality of images in a plurality of formats and from a plurality of sources, wherein the plurality of sources includes a video data source and a graphics data source; and

processing the plurality of images in said display processing system to generate the output image in response to a processing control input.

98. (New) The method of claim 97, wherein the output image is generated based on a first image and a second image, wherein said processing control input is formulated based on determining whether a first display position on a display panel at which a first pixel of the output image is to be displayed is within an active display region of the display panel.



99. (New) The method of claim 98, further comprising  
performing active display processing to generate the first pixel of the output image if the first display position is within the active display region of the display panel; and  
performing blanking processing to generate the first pixel of the output image if the first display position is not within the active display region of the display panel.
100. (New) The method of claim 99, wherein performing active display processing comprises:  
performing selective display processing if the first image and the second image are not both active at the first display position; and  
performing composite display processing if the first image and the second image are both active at the first display position.
101. (New) The method of claim 100, wherein the first image is active at the first display position if the first display position is within a first display area to be occupied by the first image and wherein the second image is active at the first display position if the first display position is within a second display area to be occupied by the second image.
102. (New) The method of claim 100, wherein performing selective display processing comprises:  
selecting, as the first pixel of the output image, either a first pixel of the first image if only the first image is active at the first display position or a first pixel of the second image if only the second image is active at the first display position.
103. (New) The method of claim 102, wherein the first pixel of the first image is a pixel of the first image whose display location corresponds to the first display position and wherein the first pixel of the second image is a pixel of the second image whose display location corresponds to the first display position.

104. (New) The method of claim 100, wherein performing composite display processing comprises:

blending a first pixel of the first image with a first pixel of the second image to generate the first pixel of the output image.

105. (New) The method of claim 104, wherein the first pixel of the first image is a pixel of the first image whose display location corresponds to the first display position and wherein the first pixel of the second image is a pixel of the second image whose display location corresponds to the first display position.

106. (New) The method of claim 100, wherein performing composite display processing comprises:

selecting, as the first pixel of the output image, either a first pixel of the first image, a first pixel of the second image, or a blending of the first pixel of the first image and the first pixel of the second image, based upon the processing control input, the processing control input indicating whether the first image is transparent or opaque, whether the second image is transparent or opaque, and whether the first image is on top of the second image.

107. (New) The method of claim 106, wherein the processing control input comprises a first control signal, the first control signal is set if the first image is transparent and not set if the first image is opaque, a second control signal, the second control signal is set if the second image is transparent and not set if the second image is opaque, and a third control signal, the third control signal is set if the first image is on top of the second image and not set if the second image is on top of the first image.

108. (New) The method of claim 107, wherein the first pixel of the first image is selected as the first pixel of the output image if the first control signal is not set and the third control signal is set.

109. (New) The method of claim 107, wherein the first pixel of the second image is selected as the first pixel of the output image if the second control signal is not set and third control signal is not set.

110. (New) The method of claim 107, wherein the blending of the first pixel of the first image and the first pixel of the second image is selected as the first pixel of the output image if both the first control signal and the second control signal are set.

111. (New) The method of claim 107, wherein the blending of the first pixel of the first image and the first pixel of the second image is selected as the first pixel of the output image if the first control signal is set and the third control signal is set.

112. (New) The method of claim 107, wherein the blending of the first pixel of the first image and the first pixel of the second image is selected as the first pixel of the output image if the second control signal is set and the third control signal is not set.

113. (New) The method of claim 106, wherein the blending of the first pixel of the first image and the first pixel of the second image is an alpha blending of the first pixel of the first image and the first pixel of the second image.

114. (New) The method of claim 113, wherein the alpha blending comprises an alpha blending of a first component of the first pixel of the first image and a first component of the first pixel of the second image.

115. (New) The method of claim 114, wherein the first component of the first pixel of the respective image is a chroma component indicative of a first characteristic of the first pixel or a luma component indicative of a second characteristic of the first pixel.

116. (New) The method of claim 115, wherein the first characteristic is a color characteristic and the second characteristic is a brightness characteristic.

117. (New) The method of claim 98, wherein the first image and the second image are selected from the group consisting of a digital video image, an analog video image, a graphics image, and a background color.

118. (New) The method of claim 117, wherein the graphics image comprises a tiled graphics image.

119. (New) The method of claim 117, wherein the graphics image comprises a cursor image.

120. (New) The method of claim 98, wherein the output image is displayed on the display panel in an interlaced display mode.

121. (New) The method of claim 99, wherein determining whether the first display position is within the active display region comprises:

determining whether the display panel is in a blanking state, the first display position is within the active display region if the display panel is not in the blanking state.

122. (New) The method of claim 121, wherein the display panel is in the blanking state if the display panel is in a vertical blanking period.

123. (New) The method of claim 121, wherein the display panel is in the blanking state if the display panel is in a horizontal blanking period.

124. (New) The method of claim 99, wherein performing blanking display processing comprises:

generating, based upon a blanking control input, either a blank signal, an end of active video (EAV) signal, a start of active video (SAV) signal, a constant value, a previous output pixel, or a pixel of ancillary data.

125. (New) The method of claim 124, wherein the ancillary data is a text data, a video data, or a graphics data.

126. (New) The method of claim 97, wherein processing the plurality of images comprises blending the plurality of images in a predetermined order.

127. (New) The method of claim 97, wherein processing the plurality of images comprises selecting an image from the plurality of images based on a plurality of factors.

128. (New) An apparatus to generate an output image based on a plurality of images, the apparatus comprising:

a set of data buffers to store the plurality of images, the plurality of images being in a plurality of formats and from a plurality of sources, wherein the plurality of sources includes a video data source and a graphics data source; and

a processing unit to process the plurality of images to generate the output image based on processing information and instructions stored in the set of data buffers.

129. (New) The apparatus of claim 128, wherein to process the plurality of images comprises:  
to determine whether a first image and a second image are active at a current display location on a display panel;  
to perform a first function if the first image and the second image are both active at the current display location; and  
to perform a second function if the first image and the second image are not both active at the current display location.

130. (New) The apparatus of claim 129, wherein to determine whether the first image and the second image are active comprises:  
to determine whether the current display location is within a first display area to be occupied by the first image and a second display area to be occupied by the second image.

131. (New) The apparatus of claim 129, wherein to perform the first function comprises:  
to select, as the output image, either the first image if the first image is not transparent and to be displayed on top, the second image if the second image is not transparent and to be displayed on top.

132. (New) The apparatus of claim 129, wherein to perform the second function comprises:  
to select, as the output image, either the first image if the first image is active and the second image is not active at the current display location or the second image if the second image is active and the first image is not active at the current display location.